CAAP Quarterly Report

Date of Report: *June 1, 2015*

Contract Number: *DTPH56-13-H-CAAP02*

Prepared for: *DOT*

Project Title: *Scaling and Self-Sensing in Composite Repairs of Corrosion Defects*

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For quarterly period ending: *June 1, 2015*

Business and Activity Section

(a) Generated Commitments

There has been no change in project participants or other contracts.

Supplies	Cost
Supplies and Fittings	$59.19
Grit Blasting	$150.00
Grit Blasting	$150.00
Grit Blasting	$237.50
Sample Welding	$2,772.00

(b) Status Update of Past Quarter Activities

During the last quarterly period we have

1. Completed 2 of 4 participant installs
2. Begun fatigue testing on completes installs
3. Finalized design of large scale test vessel
4. Began ordering large scale test vessel materials

Small-Scale Sample Testing

As of this quarterly report, two of the four companies have installed repairs on the small-scale samples that were fabricated and delivered last quarter. We are still waiting on two companies to complete the installs. While we are waiting, we have begun fatigue testing the samples that have been completed. Those tests are ongoing and we expect to have results by next quarterly report.

Large Vessel Design and Fabrication

For the final experimental component of the project is the large-scale vessel testing. We have finalized the design based on our successful rolling experiment that was described in the previous progress report. The heads for this vessel have been ordered and we expect them to be delivered in the next couple of weeks. Machining of the flaws and rolling of the plates are occurring this month and should

be complete by the end of June. A drawing of the large-scale test vessel is given below in Figure 1. The installs will have to cross weld lines, but these will be ground flat to minimize any interference with the installed repair. We expect to request installs of the large-scale repairs as soon as fabrication is complete.

Figure 1: Schematic overview of large-scale (42" diameter) pressure vessel.

(c) Description of any Problems/Challenges

As described in the previous quarterly report, we are facing is the schedule delays for testing the small-scale pressure vessels. We are still waiting for two companies to install repairs on the small-scale samples, but we are testing the currently completed repairs, which should limit the impact of the delayed installs. The final issue is that our intended testing area for the large-scale vessel has been reallocated and is no longer available. We are currently investigating several options and expect to have finalized a new location before the next quarterly report.

(d) Planned Activities for the Next Quarter –

Since we are in the testing phase, our planned activities for the next quarter are similar to those of last quarter (ending March 1.)

1. Complete installation of small-scale test vessel repairs.
2. Complete a significant portion of the small scale fatigue testing.
3. Complete fabrication of large-scale test vessel and pressure system.